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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,897	02/08/2002	Yung-Ting Lee	LEEY3008/EM	8027

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BACON & THOMAS, PLLC
625 SLATERS LANE
FOURTH FLOOR
ALEXANDRIA, VA 22314

EXAMINER	
KIM, WESLEY LEO	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/067,897	LEE ET AL.	
	Examiner	Art Unit	
	Wesley L Kim	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because reference number S303' in par.17 line 6 is used to represent the disconnect mode in Fig.3, however S303' is not in the drawings and it appears that the reference number should be corrected to be S303. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the

description: S300' in line Fig.3. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Labonte et al (U.S. Patent No. 6259918 B1).

Regarding claim 1, Labonte et al discloses at least one mobile wireless communication unit (Fig.6;114); at least one first base station (Fig.6;102(1)) and one second base station (Fig.6;102(2)), each providing a cell and having at least one smart antenna array (Col.5;10-12); and a central control unit for controlling

data exchange between the first base station and second base station (Col.5;24-28 the MSC and BSC act as the central control unit), and storing user data of the mobile wireless communication unit (To one of ordinary skill in the art it is inherent that the BSC and MSC store data of the mobile wireless communication unit); wherein, in the cell, communication band is divided into a plurality of channels (Col.7;28-30 control and traffic channels); the first base station and the second base station trace the mobile wireless communication unit by their antennas (Col.5;33-37,51-55), respectively, and signal strength of the mobile wireless communication unit received by the antennas are used to determine a moving direction of the mobile wireless communication units (Col.5;37-51, Col.5;55-Col.6;1), whereby, when the mobile wireless communication unit moves from the first base station towards the second base station, the central control unit notifies the second base station, so that the second base station can prepare to perform a handoff process in advance (Col.6;49-67).

Regarding claim 6, Labonte et al discloses all the limitations as disclosed in claim 1 in addition to the antennas of the first base station and second base station being smart antennas (Col.4;10-13 and Abstract;1-3)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2,7, and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Labonte et al (U.S. Patent No. 6259918 B1) in view of Brederveld et al (U.S. Patent No. 6278877 B1).

Regarding claim 2, Labonte et al discloses all the limitations as disclosed in claim 1, however he does not expressly disclose the first and second base stations determining the signal strength of the mobile wireless communication unit through a first specific value, a second specific value, and a third specific value. However, Brederveld et al does disclose the base stations determining signal strength of the mobile wireless communication unit through a first specific value, and second specific value, and a third specific value (Col.5;32-40 TH2 represents the third value, TH1 represents the second value, and TH3 represents the first value). He also teaches the third specific value (TH2) is larger than the second specific value (TH1); the second specific value is larger than the first specific value (Col.5;32-40).

As the mobile wireless communication unit moves from the first base station towards the second base station Brederveld et al does not expressly disclose a base station performing a hand off process when the signal strength received by the first base station is smaller than the third specific value, however he does perform a handoff process under different conditions (Col.4;42-47 When the signal strength is less then the second specific value (TH1) but greater than first specific value (TH3), a search operating mode begins, an indication of weakening signal strength, so therefore beacon messages/signals from any base

station may be monitored to determine a base station capable of providing a better signal strength (Col.2;15-19)). Although the conditions Brederveld et al use to start a hand off process may not read exactly as stated in the limitations, he is essentially doing the same thing by using the specific values in comparison to the signal strength to determine whether or not a handoff process should be initiated. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Labonte et al's communication system with Brederveld et al's handover method for a mobile wireless station because this allows the mobile station to maintain communication with a base station providing the most acceptable communications quality while the mobile station moves around from one cell to another (Abstract;11-13 and Col.3;52-58).

Regarding claim 7, the combination as discussed above discloses all the limitations as disclosed in claim 2. Labonte et al does not expressly disclose anything about the first base station disconnecting its connection to the mobile wireless communication unit when the received signal strength is smaller than the first specific value. However, Brederveld et al does disclose a switch of base stations to one with a communications quality value above the first specific value (TH3) enabling the mobile station to maintain communication with a base station when the communications quality becomes so low that a new base station has to be identified within as short a time as possible (Col.5;30-42 If the communications quality goes below the first specific value (TH3) then it is obvious that the base station disconnects its connection to the mobile wireless

communication unit which is why a new base station must be identified as soon as possible to maintain the connection). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Labonte et al's communication system with Brederveld et al's handover method for a mobile wireless station because this procedure assists in enabling the mobile station to maintain communication with a base station when the communication quality becomes low (Col.5;38-41).

Regarding claim 8, Labonte et al does not expressly disclose a connection between a base station and mobile station when the signal strength is greater than a third specific value, however, Brederveld et al does discloses the case when the received signal strength is larger than the third specific value (TH2), the first base station connects the first mobile wireless communication unit for communication (Col.5;10-14). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Labonte et al's communication system with Brederveld et al's handover method for a mobile wireless station because this allows the mobile station to maintain communication with a base station providing the most acceptable communications quality while the mobile station moves around from one cell to another (Abstract;11-13 and Col.3;52-58).

5. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Labonte et al (U.S. Patent No. 6259918 B1) in view of Takahashi (U.S. Patent No. 5787358).

Regarding claim 3, Labonte et al discloses all the limitations as disclosed in claim 1, however he does not expressly disclose using the received signal strengths of the first base station and second base station to arrange priorities of the channels. Takahashi, on the other hand, does disclose using the received signal strengths of the first base station and second base station to arrange priorities of the channels (Col.2;5-32). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Labonte et al's communication system with Takahashi's dynamic channel allocation system to reduce interference in the communications system and to more effectively use the frequencies (Col.1;9-11,44-49 Takahashi).

6. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Labonte et al (U.S. Patent No. 6259918 B1) in view of Kubota (Pub. No. US 2001/0007819 A1).

Regarding claim 4, Labonte et al discloses all the limitations as disclosed in claim 1, however he does not expressly disclose different cells distinguished by employing different direct sequence spread spectrums, so that adjacent cells can use the same channels to perform wireless communications for different wireless communication units. Kubota, on the other hand, does disclose different cells distinguished by employing different direct sequence spread spectrums (Par.64 using spreading codes that are different in the respective BSs), so that adjacent cells (Par.64 adjacent areas) can use the same channels (Par.64 same frequency) to perform wireless communications for different wireless communication units (Par.64). It would have been obvious to one of ordinary skill

in the art at the time of the invention to incorporate Labonte et al's communication system with Kubota's employment of different spread spectrums so a large-scale mobile communication system which has many mobile switching centers allows the same frequency to be used in adjacent cells and hence allow inter-system hand-off control process to be carried out using pilot signals of the same frequency between cells (Par.41).

7. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Labonte et al (U.S. Patent No. 6259918 B1) in view of Goldberg et al (U.S. Patent No. 5742509).

Regarding claim 5, Labonte et al discloses all the limitations as disclosed in claim 1, however he does not expressly disclose a 2.4GHz unlicensed communication band. Stewart, on the other hand, does disclose a 2.4GHz frequency band (Col.1;16). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a 2.4GHz communication band because of wide acceptance of 2.4GHz systems throughout most of the World.

8. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Labonte et al (U.S. Patent No. 6259918 B1) in view of Brederveld et al (U.S. Patent No. 6278877 B1) in further view of Wejke et al (U.S. Patent No. 5175867)

Regarding claim 9, Labonte et al and Brederveld et al disclose all the limitations as disclosed in claim 2. Labonte et al does not expressly disclose the signal strength less than the second specific value and larger than the first specific value where a handoff is performed. He also does not expressly disclose

reporting a new position of the wireless communication unit to the centrol control unit.

Although Brederveld et al discloses 3 specific values, which are used to determine whether or not a handoff should be performed, he does not go about it the same way as stated in the limitations. On the other hand, Wejke et al performs a handoff in the same manner as stated in the limitations. He discloses a signal strength smaller than a second specific value (Abstract;8-10) but larger than a first specific value (although not expressly disclosed, it is obvious to see that a first specific value exists, once the mobile unit gets so far from the base station there is a signal strength so small that the base station can no longer service the mobile station, this signal strength being the first specific value). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the communication system of Labonte et al with Brederveld et al and Wejke et al's method of performing a hand-off because the three predetermined values provide guidelines for a central control unit to determine when to start a handoff or hand-off procedure and in doing so provide a better connection for the mobile station (Par.12;19-22).

OFFICIAL NOTICE is taken that it is well known in the art that when a handoff is performed, the first base station switches control to the second base station, and a new position of the wireless communication unit is reported to the central control unit. It would have been obvious that all the information pertaining to the mobile station, including the new position, be sent to the central control

unit so that control from the first base station can be appropriately forwarded to the second base station.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley L Kim whose telephone number is 703-605-4319. The examiner can normally be reached on Monday-Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WLK

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600